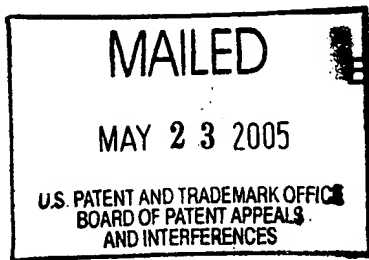


The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE



**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Ex parte QINYUN PENG, KRISHNA SRINIVASAN
and WILLIAM D. LEE

Appeal No. 2005-0895
Application No. 09/484,749

ON BRIEF

Before CAROFF, PAK, and WARREN, Administrative Patent Judges.
CAROFF, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1-2 and 4-8, all the claims now pending in appellants' application.

The claims on appeal are directed to a glass fiber mat for use in making roofing products such as asphalt shingles. The mat includes glass fibers, an organic resin binder, and a polysiloxane adhesion modifier which is applied to the surface of the mat.

Claim 1, the sole independent claim, is illustrative of the claimed invention:

1. A glass fiber mat for use in making a roofing composite of asphalt-coated hand sheets and asphalt shingles, said mat comprising, by weight, about 68% to about 90% of fibers; about 10% to about 32% by weight of an organic resin binder; and having applied to the surface of said glass mat about 0.001% to about 20% by weight of an adhesion modifier which is non-reactive with said surface of the glass mat but which induces fiber pull-out during tear of the composite and thereby provides improved composite tear strength wherein said asphalt-coated hand sheets and asphalt shingles thereof meet or exceeds Tear Test D-1922 (ASTM D-3462, July 10, 1997 Ed), and wherein said adhesion modifier is a polysiloxane.

The prior art references relied upon by the examiner are:

Marzocchi	3,865,682	Feb. 11, 1975
Mirous	5,518,586	May 21, 1996

Claims 1-2 and 4-8 stand rejected under 35 U.S.C. § 103 (a) for obviousness in view of Mirous taken in combination with Marzocchi.

Based on the record before us, we agree with appellants that the examiner has failed to establish a prima facie case of obviousness.

Accordingly, we reverse the rejection at issue.

Mirous relates to the formation of glass fiber mats for use in making roofing products such as asphalt shingles. A modified urea-formaldehyde resin is incorporated into the mat as a binder. Mirous is silent with regard to use of any polysiloxane adhesion modifier as claimed.

While Marzocchi, the examiner's secondary reference, discloses the use of various organo- silicon compounds, including certain polysiloxanes, as modifiers for urea-formaldehyde type resins, we agree with appellants that the organo-silicon compounds

disclosed by Marzocchi are limited to those which chemically bond with the resin. In this regard, see Marzocchi at column 3, lines 33-37 and 45-53 (... “resin is modified to have chemically bound in the matrix thereof an organo-silicon compound to further enhance adhesion of elastomeric materials to the glass fiber surfaces.”).


In contradistinction, appellants’ claims require use of a polysiloxane “which is non-reactive with said surface of the glass mat ...”. As we interpret the claims, in light of the specification (page 2, lines 1-10), the polysiloxane must not be reactive with any and all of the components of the surface of the glass mat, including the resin binder. Thus, neither Mirous nor Marzocchi suggest the particular type of polysiloxanes to which the instant claims are limited.

In addition, we find that there is a more fundamental reason why the examiner’s prima facie case for obviousness is deficient. Marzocchi relates to glass fiber-reinforced elastomeric products where organo-silicon compounds are used in combination with a resin to “further enhance adhesion of elastomeric materials to the glass fiber surfaces” (Marzocchi: column 3, lines 35-37; and column 11, lines 3-18). On the other hand, Mirous relates to glass fiber mats used, for example, in the manufacture of asphalt roofing shingles. There is no indication that the products of Mirous include an elastomeric component. Accordingly, we find that there would have been no motivation, within the context of 35 U.S.C. § 103, to apply a polysiloxane to the surface of the glass mat of Mirous where the prior art (Marzocchi) suggests only that such organo-silicon compounds

For the foregoing reasons, the decision of the examiner is reversed.

Marc L. Caroff
MARC L. CAROFF
Administrative Patent Judge


CHUNG K. PAK
Administrative Patent Judge


CHARLES F. WARREN
Administrative Patent Judge

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